

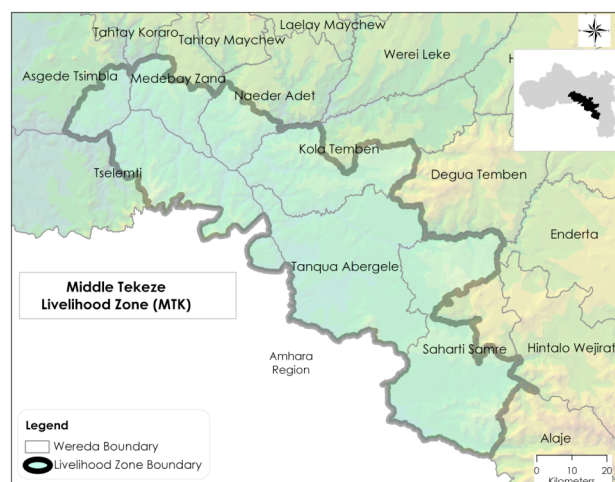
Livelihood Profile Tigray Region, Ethiopia

Middle Tekeze Livelihood Zone

October 2006¹

Zone Description

The Middle Tekeze livelihood zone includes the lowland (kola) part of Seharti Samre woreda in Southern Tigray, all of Tengua Abergele, major part of Kolla Temben, part of Tslemti, part of Asgede Tsimbla, some parts of Naeder Adet in Central Tigray and extends down to from Medebay Zana woreda in western Tigray. This is a dry, lowland (*kolla*) agro-ecological zone. The terrain is undulating, hills alternating with plains and valleys. Most villages are surrounded by mountains. Vegetation cover is made up of scattered acacia trees, riverine forests, and bush scrub. The Tekeze river runs through the zone on its westward course towards Sudan. Population density is sparse. Rainfall is a low and erratic 350-550mm per year. Agricultural production is 100% *kiremti* rains dependant. Water for human consumption is collected from springs, minor rivers and seasonal pools.



The production system is mixed farming on low lying plains, valleys and foothills. The main crops grown are staple sorghum, maize, teff, sesame and flax (oil seed). Land for cultivation is generally available, but the soil is infertile and stony. Natural and artificial fertilizers are required to produce a good yield. Oxen are used for providing traction power. Households without oxen rent oxen in exchange for 50% of the harvest. Teff, a high value cereal, is the main cash crop. Teff is a labor intensive crop that needs the land to be ploughed multiple times to prepare for planting, and this is especially true in this zone because of poor quality soils. Both men and women are involved in agricultural activities, either on their own fields or for a wage. Soil infertility and recurrent drought conditions are the main reasons why this zone is chronically food insecure. Smut and shoot fly pests are the biggest hazards to crop production. Smut affects maize and sorghum, and shoot flies attack teff. Striga weed is a parasitic weed that also attacks sorghum, and has the potential to reduce yields by 30%.

Cattle and goats are the main livestock types reared in the zone. Livestock are important both as a source of food and income and also for draught power. Cattle are highly valued possessions that are rarely sold. Shoats are more frequently sold and slaughtered during festive seasons in April (*Fasika*), and September (*Meskerem*). The poor and middle purchase livestock more often to build their livestock herds. The better off restock from within the herd. Communal grazing lands and crop residues provide feed for livestock, under the supervision of young boys. During the wet season, the sources of water for livestock are seasonal pools and minor rivers. The rainy season brings both an increase in pasture and the onset of the milk production season. Residents in this zone consume both cattle and goat milk. The main hazards to livestock ownership are shortage of pasture, bovine and ovine *pasteurellosis*, black leg and anthrax.

Other important economic activities in the zone are honey sales and gum arabic sales. Honey production is more common in better off households because it requires capital to purchase either modern or traditional beehives. Men mainly do this activity.

The very poor, poor, and middle households are beneficiaries of the Productive Safety Nets Program (PSNP). PSNP was initiated in 1997 (E.C) and distributes food and cash entitlements for six months. Households with labor receive their distributions through participation in public works activities, and those without labor receive through direct support.

The main impediments to improved food security in the livelihood zone are poor soil fertility and lack of access to inputs, and drought.

¹¹Field work for the current profile was undertaken in February 2006. The information presented refers to October 2005-September 2006 (EC Tikimit 1997 to Meskerem 1998), a good year by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2011). The exchange rate January 2006 1USD = 8.676ETB.

Markets

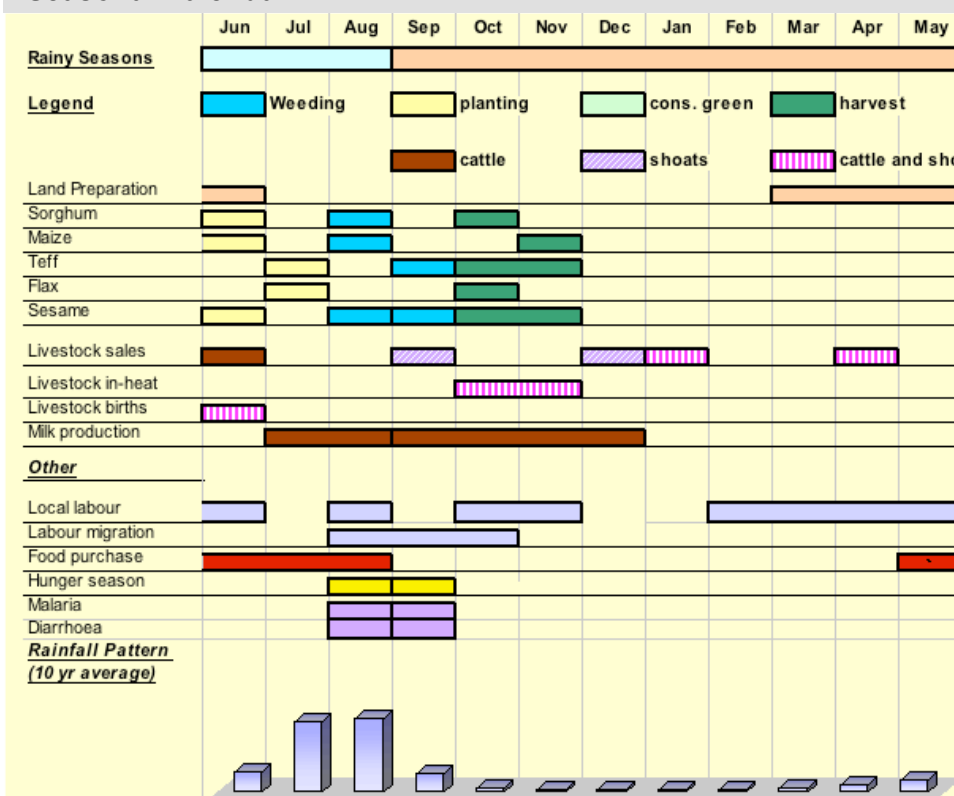
The main cash crop is teff. Sorghum and flax are minor cash crops. Crop sales are mainly in the post harvest season between November and December. Most crops are sold in the local market. Teff is a high value cereal, while sorghum, millet and maize tend to be cheaper. Maize and sorghum are imported into the zone between May and August. Sorghum is imported from Shire, and comes through markets in Tselemti, Axum, to be sold in Abiyadi and Chilla. Maize is imported from Mekelle and comes through Hagereselam to be sold in Abiyadi and Yechila. Flax is traded in Addis Ababa. Very small amounts of sesame sold to traders who export it to the Middle East and Asia through Humera and Addis Ababa.

Shoats (sheep and goats) and cattle are the main livestock sold. They are both supplied from Abiyadi and sold to markets in Shire. Goats go through markets in Adwa, Axum, and Hagereselam. The better-off sell bigger goats and get 200ETB per animal, while the poor and middle sell younger goats for 150ETB. Cattle are transported through Adwa for sale in Axum. Cattle cost an average 800ETB. Livestock sales are in January, April and June. Chickens are sold throughout the year.

Of those doing casual labor within this livelihood zone, 80% migrate outside of the zone to Humera in September and October for sesame harvesting labor, 15% stays in the local area and 5% work in the local towns.

Market access in this zone is bad reflecting the bad condition of the roads. The terrain is difficult for travel, and there is very poor infrastructure.

Seasonal Calendar



The four seasons in the zone are *Hagay* which lasts from mid-December to mid-March (dry season), *Azmera*, from mid-March to May (small rainy season), *Kiremti*, from June to mid-September (main rainy season) and *Kewey*, which is from October to December (harvesting). Agriculture is 100% dependant on the *kiremti* rains.

The staple food crops cultivated are sorghum, maize and teff. Two sorghum varieties are planted, one in April and the other in June. The June crop is intercropped with, and planted at the same time as maize and haricot bean. Teff, Sesame and flax are planted in July. Sesame is intercropped with teff. Harvest of all crops is in

October and November.

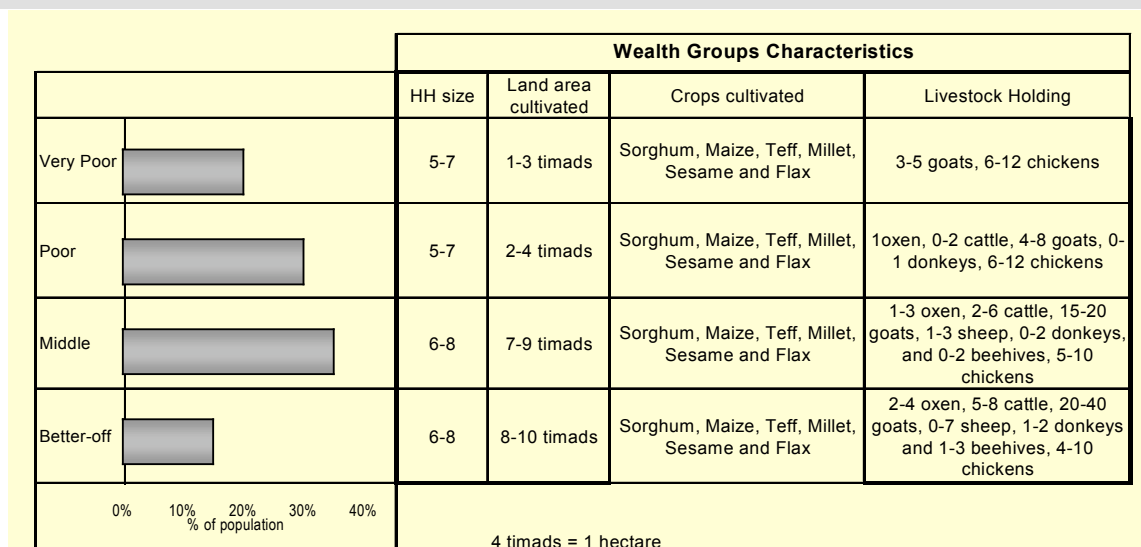
The onset of rain in June heralds the start of the livestock birthing season. The lactation period begins in July and lasts until November, when the livestock heat period begins. Livestock are sold in January, April, June and September. The June selling period is spurred by the increased demand for oxen labor during the land preparation period. Shoaat sales increase in December April and September because of the *Timkat*, *Fasika* and *Meskerem* festivals. In a bad year livestock migrates to the Tekeze gorge in Tselemti to search for pasture.

Agriculture labor opportunities are available through the farming season. Most households migrate to Humera in August, September and October for the sesame harvest.

The hunger season peaks from August to September. During this period the search for wage labor intensifies because most households meet their food needs through purchase. Most income is earned through livestock and livestock product sales for the better off, and mainly agricultural labor and urban labor for the poorer groups.

The two main diseases are malaria and diarrhea. Malaria is associated with the offset of rain starting in August and September. Diarrhea occurs in August and September.

Wealth Breakdown



There are four wealth groups in the livelihood zone, namely the very poor, poor, middle and better off.

The main determinant of wealth is amount of land cultivated and the availability of oxen labor. To increase the amount of land cultivated, the better off and middle rent in land from the very poor and poor wealth groups. A sharecropping arrangement pays the very poor and poor with 50% of the harvest from the rented land. All groups produce sorghum, maize, teff and finger millet. The poor, middle and better off also produce maize. All groups also produce small amounts of sesame. Land infertility, lack of labor, and drought are the biggest constraint to production

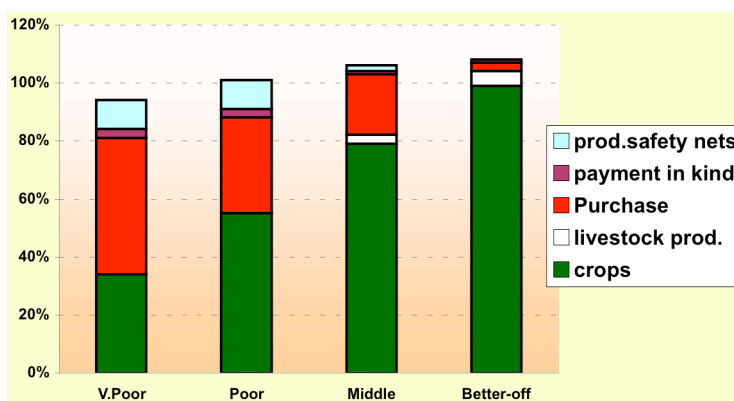
Oxen ownership is important for land utilization. The very poor rent-out their land mainly because they do not have oxen to cultivate the land. To access oxen labor, the very poor and poor exchange 2 days of their human labor for one days oxen labor from the better off.

Livestock ownership is also important as an income source. Shoats are sold to meet the more frequently recurring expenses, while cattle serve as a longer-term insurance mechanism that can be sold when a larger sum of money is required for emergency needs. Donkeys are also important for labor and transportation. Shortage of pasture and drought are the biggest constraint to livestock production. The middle and better off own 1 and 2 beehives each.

Sources of Food – A good year (2005-06)

Own crop production increases across the wealth groups. Own crop production is the main food source for the poor, middle and better-off, and the second largest for the very poor. Crops produced, in order of importance to household consumption, are sorghum, maize, teff, millet, haricot beans, and flax. The very poor do not grow flax. Purchases decline with wealth group. Main foods purchased are sorghum and maize.

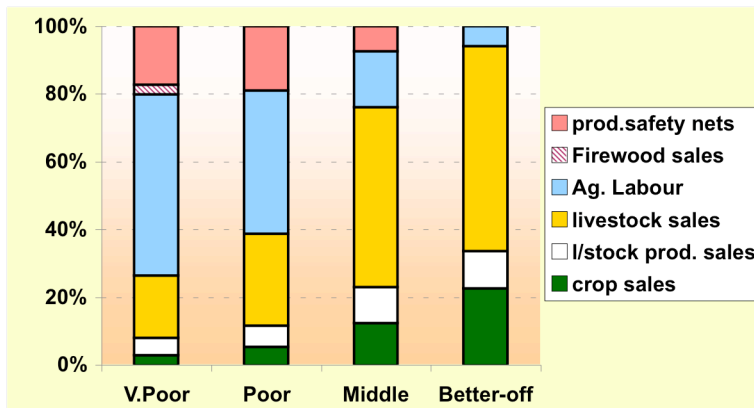
Non staple food purchased includes haricot beans, sugar and oil. Only the very poor and poor purchase haricot beans. The poor, middle and better off, purchase sugar and oil. Livestock products such as butter are consumed only by the middle and better off.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

PSNP beneficiaries in the zone are the very poor, poor and middle groups. Food distributions last for three months. All wealth groups are getting a little payment for agricultural labor in kind (i.e. meals) as well as in cash.

Sources of Cash – a good year (2005-06)



The graph provides a breakdown of total cash income according to income source.

Annual income (ETB)	2,300-2,800	2,200-2,700	2,750-3,250	4,000-4,500

The middle and better off migrate to Humera for one month, while the very poor and poor stay there for two months. The very poor also seek work in the local towns.

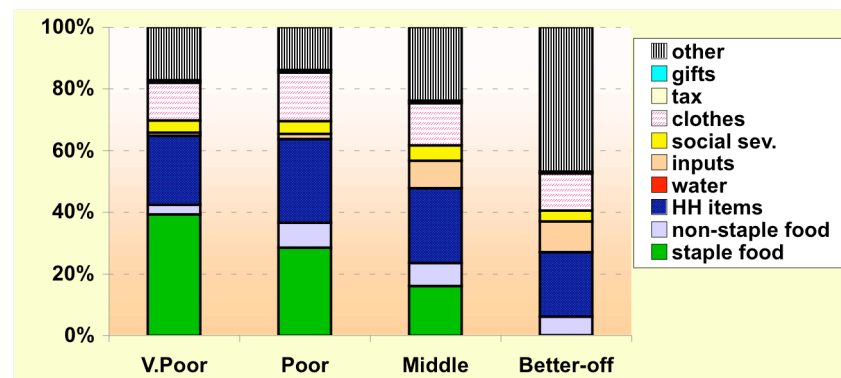
Crop sales increases by wealth group. Crop sales are generally modest and consist of selling a variety of crops. Teff is the high value crop and it earns the most crop income for all wealth groups. The better-off sell teff, sorghum, maize, sesame, flax and millet. The middle sell teff, millet and flax, while the poor are selling teff and flax. The very poor are only sell teff. Livestock products (butter and eggs sales) provide an additional source of income for all wealth groups. Only the very poor are involved in firewood sales.

The very poor, poor and middle and earning income from PSNP. PSNP pays 6ETB per person per day for 5 working days a month, over a three-month period. The very poor and poor have a maximum of 5 people each involved, and the middle have between 2 and 3 people

Expenditure Patterns – a good year (2005-06)

Staple food (sorghum and maize) is purchased by all wealth groups except the better-off who produce sufficient to meet their needs. Staple is the largest expenditure for the very poor. Non-staple expenditure is made up of haricot beans, sugar and oil. The very poor do not buy oil.

Household items consist of utensils, kerosene, soap, and grinding costs. These items comprise 20-30% of expenditure for all groups.



The graph provides a breakdown of total cash expenditure according to category of expenditure.

Typical essential inputs purchased are livestock drugs, salt for animals, labor hiring, plough/tools, and fertilizer. All wealth groups purchase livestock drugs and pay for plowing. However, only the middle and better-off spend on crop fertilizer. This expenditure increases with wealth group. Better off household have the highest labor costs for weeding because they cultivate more land.

Clothes are a significant cost for all households. Clothes are 12-15% of expenditure for all wealth groups.

Social services and tax are the less significant expenditures for all groups contributing approximately 5% of expenditure for all wealth groups. Other expenditure on other in this livelihood zone spent on livestock restocking or credit repayment, transport, social obligations as well as other items.

Hazards

The main hazard in the zone is pests and diseases. Crops are affected by smuts and shoot flies. Sorghum is also attacked by *striga* weed. *Striga* is a parasitic weed that chronically reduces the sorghum harvest by about 30%.

Livestock are affected by bovine and ovine pasteurellosis, black leg and anthrax.

Drought is an intermittent hazard that occurs once every three years. Strong winds and hail destroy crops once every three years.

Coping Strategies

The poorer groups have limited assets to depend on to earn additional income in a bad year. Their main response strategy is to intensify the search for labor. More household members will migrate for longer periods. If necessary they will migrate to more distant places. The secondary strategy is to minimize expenditure on non-essential items such as transport gifts, and clothes. Seeking loans is the last option to earn the necessary income.

The better off sell livestock. Shoats are first, and cattle sales are delayed. Livestock herds, cattle in particular, are allowed to grow in bad years to prepare for sales a bad year, when other income opportunities are scarce. Livestock sales are accompanied by minimizing expenditure on non-essential items. Taking loans is the last option given that loans are hard to find in a bad year, and when available the interest rates are very high.

Summary

The Tekeze river runs through this dry lowland zone on its westward course towards Sudan. Sorghum, teff, maize, sesame and flax are cultivated on the low lying plains, valleys and foothills. Teff is the main cash crop, along with surplus sorghum, maize, and very small amounts of sesame, flax and millet. Infertile soils and recurrent droughts have made a significant part of the population food insecure. Lack of oxen further inhibits the capacity of poor households to fully utilize the land resources available to them. The poor and very poor get 40-50% of their income from agriculture labor opportunities on sesame farms in Humera. Their situation is in stark contrast to the middle and better-off that are cultivating up to four times more land than the poor, and meet most of their own food requirements as well as having sorghum and millet for sale. Livestock sales are the main income source for the middle and the better-off, and they augment their productivity by investing a proportion of their income on hiring labor, and purchasing fertilizer and tools.